Claims

What is claimed is:

1. An system for interacting programmatically with an industrial controller, the system comprising:

an automation interface component adapted to communicate with at least one industrial controller; and

a computer process interface library integrated into the automation interface component, the computer process interface library exposing the automation interface component to a client application process, such that the client application process can communicate with the at least one industrial controller programmatically.

2. The system of claim 1, the computer process interface library being compiled into the automation interface component to provide an executable file.

3. The system of claim 1, the automation interface component being comprised of a plurality of objects, the plurality of objects comprising a top application object for invoking an instance of the automation interface by the client application process.

4. The system of claim 1, the automation interface component comprising functionality for uploading an instruction program from an industrial controller programmatically.

5. The system of claim 1, the automation interface component comprising functionality for downloading an instruction program to an industrial controller programmatically.

6. The system of claim 1, the automation interface component comprising functionality for inserting a rung into a ladder logic instruction program, downloading the

ladder logic program to the industrial controller and executing the program programmatically.

7. The system of claim 1, further comprising a client application program functioning as one of a developer, a monitor, an editor and a maintenance system.

8. The system of claim 7, the client application program residing at a remote server and the automation interface residing at a local server connected to one another by a first network, the automation interface being connected to an industrial controller by a second network.

9. The system of claim 8, the first network being one of an intranet and the Internet and the second network being one of a local network and a factory network.

10. The system of claim 1, the automation interface providing access to data of a controlled process associated with an industrial controller.

11. A system for interacting programmatically with an industrial controller, the system comprising:

an automation interface component adapted to communicate with at least one industrial controller, the automation interface being coupled to a web service for interacting over the Intranet;

a computer process interface library compiled into the automation interface component to provide an executable file with remote access capabilities, the computer process interface library exposing the automation interface component to a client application process, such that the client application process can communicate with the at least one industrial controller programmatically; and

a client application being coupled to a website for interacting with industrial controllers over the Internet through the automation interface component.

12. The system of claim 11, further comprising a data warehouse coupled to the Internet for storing process control data accessed from one or more industrial controllers by the client application.

13. The system of claim 11, the automation interface comprising functionality for uploading, downloading and editing control programs of an industrial controller programmatically directly to the industrial controller.

14. The system of claim 11, the automation interface comprising functionality for developing and editing ladder logic instruction programs, downloading the ladder logic instruction program to the industrial controller and executing the program programmatically through a client application.

15. A method for providing a mechanism to interact programmatically with an industrial controller, the method comprising:

developing a plurality of programming components for interacting with an industrial controller;

integrating computer process interfaces into the plurality of components for providing the plurality of components with remote access capabilities; and

compiling the automation interface and process interfaces into an executable file.

16. The method of claim 15, the developing of a plurality of programming components for interacting with an industrial controller comprising developing a model to communicate various functions associated with the industrial controller.

17. The method of claim 15, further comprising exposing the executable file to local and remote applications.

18. The method of claim 17, the exposing the executable file to local and remote applications comprising exposing the executable file to the Internet *via* a web service.

19. The method of claim 15, the developing a plurality of programming components for interacting with an industrial controller comprising providing a component having functionality for uploading an instruction program from an industrial controller programmatically.

20. The method of claim 15, the developing a plurality of programming components for interacting with an industrial controller comprising providing a component having functionality for downloading an instruction program to an industrial controller programmatically.

21. The method of claim 15, the developing a plurality of programming components for interacting with an industrial controller comprising providing a component having functionality for inserting a rung into a ladder logic instruction program.

22. The method of claim 15, further comprising providing a client application program functioning as one of a developer, a monitor, an editor and a maintenance system.

23. A computer readable medium having computer-executable components comprising;

an automation interface component having functionality to interact and provide various services to an industrial controller; and

an interface library compiled into the automation interface component, the interface library exposing the automation interface component to client application processes, such that the client application processes can communicate with the at least one industrial controller programmatically.

24. The computer readable medium of claim 23, the automation interface comprising functionality for uploading an instruction program from an industrial controller programmatically.

25. The computer readable medium of claim 23, the automation interface comprising functionality for downloading an instruction program to an industrial controller programmatically.

26. The computer readable medium of claim 23, the automation interface comprising functionality for inserting a rung into a ladder logic instruction program, downloading the ladder logic program to the industrial controller and executing the program programmatically.